

WHAT IS CLAIMED IS:

1.. An intake apparatus comprising:

a tubular intake duct having an inlet port for introducing intake air from an outside;

5.. an air cleaner disposed downstream of said intake duct to filter intake air;

an air cleaner hose disposed downstream of said air cleaner and communicating with a combustion chamber of an engine; and

10.. a plurality of transmission ports which are respectively closed by air-permeable members and disposed in at least two members selected from among said intake duct, said air cleaner, and said air cleaner hose;

15.. wherein amounts of air permeation of said air-permeable members are set so as to be mutually different in order to tune intake sound generated from said inlet port and transmitted sound generated from each of said air-permeable members.

2.. An intake apparatus according to claim 1, wherein

20.. sound pressure of the intake sound is set to be substantially equal to sound pressure of the transmitted sound.

3.. An intake apparatus according to claim 2, wherein

the sound pressure of the intake sound is set to be substantially equal to or greater than the sound pressure of the transmitted

25.. sound.

4. An intake apparatus according to claim 3, wherein
the sound pressure of the intake sound is set to fall within
a range of the sound pressure of the transmitted sound to the
sound pressure of the transmitted sound + 3 dB.

5. An intake apparatus according to claim 2, wherein
said transmission ports are respectively disposed in said intake
duct and a dirty side of said air cleaner.

6. An intake apparatus according to claim 2, wherein
the amounts of air permeation of said air-permeable members are

set such that the amount of air permeation of said air-permeable member disposed on an upstream side becomes greater than the amount of air permeation of said air-permeable member disposed on a downstream side.

7. An intake apparatus according to claim 1; further comprising a cleaner-incorporated member being accommodated in said air cleaner, said cleaner-incorporated member having one end communicating with one of said intake duct and said air cleaner hose in such a manner as to be separated from an interior of said air cleaner and another end which is open in the interior of said air cleaner,

wherein an outer wall of said air cleaner is formed by

a dual-use outer wall portion which also serves as an outer wall
of said cleaner-incorporated member as well as an exclusive-use
outer wall portion for forming only said air cleaner, and
the outer wall of said air cleaner has at least one
5 transmission port which is formed in such a manner as to extend
over the dual-use outer wall portion and the exclusive-use outer
wall portion, and which is closed by said air-permeable member.

8. An intake apparatus according to claim 7, wherein
10 said cleaner-incorporated member is a semicylindrical member
obtained by half-splitting a tubular member in an axial direction,
one axial end of said semicylindrical member communicates with
one of said intake duct and said air cleaner hose in such a manner
as to be separated from the interior of said air cleaner; and
15 another axial end thereof is open in the interior of said air
cleaner.

9. An intake apparatus according to claim 8, wherein
said semicylindrical member is welded and fixed to the dual-use
20 outer wall portion and said air-permeable member.

10. An intake apparatus according to claim 7, further
including a sound shielding wall spaced apart from said
air-permeable member closing said transmission port.

11. An intake apparatus according to claim 1, further comprising:

a cleaner-incorporated member having one end communicating with one of said intake duct and said air cleaner 5 hose in such a manner as to be separated from an interior of said air cleaner and another end which is open in the interior of said air cleaner;

a sound shielding wall portion formed integrally with an outer wall of said air cleaner to compartmentalize a sound 10 shielding chamber on an inner side thereof; and a transmission port for allowing said sound shielding chamber and an outside of said air cleaner to communicate with each other; wherein 15 said transmission port allows said sound shielding chamber to communicate with the interior of said air cleaner and an interior of said cleaner-incorporated member, and closed by said air-permeable member.

12. An intake apparatus according to claim 11; wherein 20 said transmission port is formed in said sound-shielding wall portion.

13. An intake apparatus according to claim 11, wherein said cleaner-incorporated member is a half-split member obtained 25 by half-splitting a tubular member in an axial direction, one

axial end of said half-split member communicates with one of said intake duct and said air cleaner hose in such a manner as to be separated from the interior of said air cleaner, and another axial end thereof is open in the interior of said air cleaner.

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14. An intake apparatus comprising:

a tubular intake duct having an inlet port for introducing intake air from an outside;

an air cleaner disposed downstream of said intake duct

10 to filter intake air;

an air cleaner hose disposed downstream of said air cleaner and communicating with a combustion chamber of an engine; and

15 a cleaner-incorporated member being accommodated in said air cleaner, said cleaner-incorporated member having one end communicating with one of said intake duct and said air cleaner hose in such a manner as to be separated from an interior of said air cleaner and another end which is open in the interior of said air cleaner;

wherein an outer wall of said air cleaner is formed by

20 a dual-use outer wall portion which also serves as an outer wall of said cleaner-incorporated member as well as an exclusive-use outer wall portion for forming only said air cleaner, and

the outer wall of said air cleaner has at least one transmission port which is formed in such a manner as to extend 25 over the dual-use outer wall portion and the exclusive-use outer

wall portion, and which is closed by said air-permeable member.

15. An intake apparatus comprising:

a tubular intake duct having an inlet port for introducing
5 intake air from an outside;

an air cleaner disposed downstream of said intake duct
to filter intake air;

an air cleaner hose disposed downstream of said air cleaner
and communicating with a combustion chamber of an engine;

10 a cleaner-incorporated member having one end
communicating with one of said intake duct and said air cleaner
hose in such a manner as to be separated from an interior of
said air cleaner and another end which is open in the interior
of said air cleaner;

15 a sound shielding wall portion formed integrally with an
outer wall of said air cleaner to compartmentalize a sound
shielding chamber on an inner side thereof; and

20 a communicating port for allowing said sound shielding
chamber and an outside of said air cleaner to communicate with
each other;

wherein said transmission port allows said sound shielding
chamber to communicate with the interior of said air cleaner
and an interior of said cleaner-incorporated member, and closed
by said air-permeable member.